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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/838,520	04/19/2001	Geoffrey T. Haigh	A0312/7393 SJH	9453

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EXAMINER

DEBERADINIS, ROBERT L

ART UNIT	PAPER NUMBER
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2836

DATE MAILED: 07/31/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/838,520

Applicant(s)
GEOFFREY T. HAIGH et al.

Examiner
ROBERT L. DEBERADINIS

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Apr 19, 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-27 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 14-27 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims of U.S. Patent No. 6,087,882 in view of GUTIERREZ 5,969,590 and DOUGLASS 5,786,979.

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Regarding claim 14.


CHEN discloses a signal isolator comprising:

- a first substrate (column 2, line 1);
- a first passive component formed on first substrate (column 2, line 1);
- an isolation layer formed over the first passive component (column 3, lines 9-12);
- a second passive component formed over the isolation layer (column 3, lines 9-12);
- an input for receiving an input signal (figure 1, input 2); and
- a driver circuit (103) coupled between the input and one of said passive components

(L1,110).

CHEN does not disclose a second passive component being a coil. CHEN, however does disclose that transformer based isolators are well known (column 1, lines 20-22) and GUTIERREZ discloses an integrated circuit transformer with inductor-substrate isolation, including the first and second passive components being coils (16,17).

It would have been obvious to one having ordinary skill in the art at the time of this invention to design a signal isolator comprising, an integrated circuit transformer wherein the second passive component is a coil to provide a transformer based isolator (CHEN, column 1, lines 20-22).

Claim 15 is rejected  under ~~35 U.S.C. 103(a)~~ as being unpatentable over CHEN 6,087,882 in view of DOUGLASS 5,786,979.

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Regarding claim 15.

CHEN discloses a signal isolator comprising:

- a first substrate (column 2, line 1);
- a first passive component formed on first substrate (column 2, line 1);
- an isolation layer formed over the first passive component (column 3, lines 9-12);
- a second passive component formed over the isolation layer (column 3, lines 9-12);
- an input for receiving an input signal (figure 1, input 2); and
- a driver circuit (103) coupled between the input and one of said passive components

(L1,110).

CHEN does not disclose the first and second passive components being capacitor plates.

CHEN, however does disclose that capacitively coupled isolators are well known (column 1, lines 20-22) and

DOUGLASS discloses a conductive layer, disposed over a circuit layer on a substrate, divided into electro-magnetic coupling device elements such as capacitor plates.

It would have been obvious to one having ordinary skill in the art at the time of this invention to design a signal isolator having the first and second passive components being capacitor plates to increase inter-chip interconnection capacity while maximizing chip real estate allocated to a circuit layer (DOUGLASS, abstract).

Regarding claims 16.

DOUGLASS discloses the first substrate is a semiconductor substrate

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(column 1, lines 42-45).

Regarding claim 17.

CHEN discloses driver 103 may be fabricated on first substrate also a single die implementation is also possible including the driver and the passive component (column 5, lines 1-6).

CHEN does not disclose first substrate is a semiconductor substrate.

DOUGLASS discloses the first substrate is a semiconductor substrate (column 1, lines 42-45).

It would have been obvious to one having ordinary skill in the art at the time of this invention to include the driver and the first passive component to be fabricated on the first substrate to reduce size and improve isolation between the driver and the circuits coupled to the driver.

Regarding claim 18.

CHEN discloses the driver circuit may be, for example, formed on a first substrate and receiver formed on a second substrate (column 1, line 67, column 2, lines 1-3).

CHEN does not disclose a semiconductor substrate.

DOUGLASS discloses the first substrate is a semiconductor substrate (column 1, lines 42-45).

It would have been obvious to one having ordinary skill in the art at the time of this invention to arrange the first substrate and the second substrate in an order that is most

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convenient to a system layout and to design the circuits on semiconductor substrates to minimize size.

Regarding claim 19.

DOUGLASS discloses the first passive component is formed on top of the first substrate (column 3, lines 17-32).

Regarding claims 20-27.

CHEN discloses driver 103 may be fabricated on first substrate also a single die implementation is also possible including the driver and the passive component (column 5, lines 1-6).

CHEN does not disclose all the embodiments, as claimed, for the fabrication of an isolator substrate.

GUTIERREZ discloses several embodiments for the fabrication of integrated circuit transformers with inductor-substrate isolation.

It would have been obvious to one having ordinary skill in the art at the time of this invention to merely arrange a substrate for an isolator having passive components, isolation layers, shielding and the grounding layers to provide the desired isolation required for a magnetically coupled digital isolator.

Any inquiry concerning this communication should be directed to Robert L. DeBeradinis whose number is (703) 306-5857. The examiner can normally be reached on Monday-Friday from 8:30 am to 5:00 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus, can be reached on (703) 308-3119. The fax phone number for this Group is (703) 305-7724.

RLD

JULY 26, 2002

Stephen W. Jackson
7-29-02

STEPHEN W. JACKSON
PRIMARY EXAMINER

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Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

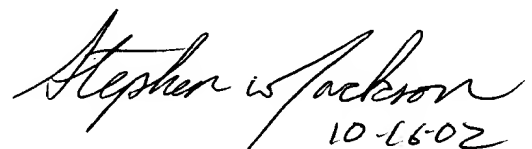
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication should be directed to Robert L. DeBeradinis whose number is (703) 306-5857. The examiner can normally be reached on Monday-Friday from 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus, can be reached on (703) 308-3119. The fax phone number for this Group is (703) 305-7724.

RLD

OCTOBER 15, 2002


10-16-02

STEPHEN W. JACKSON
PRIMARY EXAMINER